

AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claims 1-13 (canceled).

14 (currently amended). A computer implemented method for preparing a binding-ready biological sample for a binding assay, comprising:

receiving a binding assay design for a binding assay, wherein said binding assay is a hybridization assay;

preparing an experiment design for generating a binding-ready biological sample to be used in said binding assay, wherein said binding-ready biological sample is a nucleic acid sample;

choosing a robot method for generating said binding-ready biological sample;
generating work instructions for generating said binding-ready biological sample based on said experiment design and said robot method; and
executing said work instructions on robot stations to generate the binding-ready biological sample.

15 (original). The method of claim 14, further comprising, before said generating, optimizing materials usage and plate layout for generating said binding-ready biological sample.

16 (original). The method of claim 14, further comprising, before said generating, checking inventory for materials required for said experiment design.

17 (original). The method of claim 16, wherein said checking comprises:
sending a inventory request to an inventory system;

receiving a list of all materials available in inventory;
ascertaining whether there are enough materials in inventory for said
preparation.

18 (original). The method of claim 16, wherein said checking comprises:
sending a inventory request to an inventory system, where said inventory
request contains a list of materials required for said preparation;
receiving inventory data indicating whether said materials are available in
inventory; and
ascertaining from said inventory data whether said materials are available in
inventory.

19 (original). The method of claim 18, wherein said ascertaining comprises:
concluding that there are not enough materials in inventory for said
preparation;
notifying an operator that there are insufficient materials in inventory; and
repeating said ascertaining until there are enough materials in inventory for
said preparation.

20 (original). The method of claim 14, wherein said receiving further
comprises acquiring a tissue sample.

21 (original). The method of claim 20, further comprising, after said
acquiring:

extracting a constituent sample from said tissue sample; and
updating inventory to include said constituent sample.

Claim 22-25 (canceled).

26 (new). The method of claim 14, wherein said work instructions comprise instructions for pooling a plurality of binding-ready biological samples each of which is a nucleic acid sample.

27 (new). The method of claim 14, wherein said method further comprises a step of scheduling said executing step, said scheduling taking into account the relative priorities of experiments and availability of parts in inventory.